

SEQUENCE LISTING

- (1) GENERAL INFORMATION:
- (i) APPLICANT: GOLD, LARRY
TUERK, CRAIG
- (ii) TITLE OF INVENTION: METHODS OF PRODUCING NUCLEIC ACID LIGANDS
- (iii) NUMBER OF SEQUENCES: 83
- (iv) CORRESPONDENCE ADDRESS:
- (A) ADDRESSEE: Swanson & Bratschun, L.L.C.
- (B) STREET: 8400 E. Prentice Avenue, Suite 200
- (C) CITY: Englewood
- (D) STATE: Colorado
- (E) COUNTRY: USA
- (F) ZIP: 80111
- (v) COMPUTER READABLE FORM:
- (A) MEDIUM TYPE: Diskette, 3 1/5 inch, 1.44 MB
- (B) COMPUTER: IBM compatible
- (C) OPERATING SYSTEM: MS-DOS
- (D) SOFTWARE: WordPerfect 8.0
- (vi) CURRENT APPLICATION DATA:
- (A) APPLICATION NUMBER: 09/
- (B) FILING DATE:
- (vii) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 08/748,697
- (B) FILING DATE: 13-NOVEMBER-1996
- (viii) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 08/442,062
- (B) FILING DATE: 16-MAY-1995
- (ix) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 07/964,624
- (B) FILING DATE: 21-OCTOBER-1992
- (x) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 07/714,131
- (B) FILING DATE: 10-JUNE-1991
- (xi) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 07/536,428
- (B) FILING DATE: 11-JUNE-1990
- (xii) ATTORNEY/AGENT INFORMATION:
- (A) NAME: Barry J. Swanson
- (B) REGISTRATION NUMBER: 33,215
- (C) REFERENCE/DOCKET NUMBER: NEX05/DC-CON
- (xiii) TELECOMMUNICATION INFORMATION:
- (A) TELEPHONE: (303) 793-3333
- (B) TELEFAX: (303) 793-3433
- (2) INFORMATION FOR SEQ ID NO:1:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (xv) SEQUENCE DESCRIPTION: SEQ ID NO:1:
UUCCGNNNNN NNNCGGGAAA A

1001100000000000

(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:	
GTTTCAATAG AGATATAAAA TTCTTCATA G	31
(2) INFORMATION FOR SEQ ID NO:8:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 89 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:	
GTTTCAATAG AGATATAAAA TTCTTCATA GN>NNNNNNNN NNNNNNNNNN	50
NNNNNNNNNN NAGTGCATT TCCCGTTGCA CTTCGGACC	89
(2) INFORMATION FOR SEQ ID NO:9:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 85 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:	
CCCGGATCCT CTTTACCTCT GTGTGAGATA CAGAGTCCAC AAACGTGTTC	50
TCAATGCACC CGGTCGGAAG GCCATCAATA GTCCC	85
(2) INFORMATION FOR SEQ ID NO:10:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 49 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:	
CCGAAGCTTA ATACGACTCA CTATAGGGAC TATTGATGGC CTTCCGACC	49
(2) INFORMATION FOR SEQ ID NO:11:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 25 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:	
CCCGGATCCT CTTTACCTCT GTGTG	25
(2) INFORMATION FOR SEQ ID NO:12:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 23 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(ix) FEATURE:	

(D) OTHER INFORMATION: N's at positions 9-11 are base paired with N's at positions 21-23

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

UCCSANNNNN NASGGGANAA NNN

23

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(iii) MOLECULAR TYPE: RNA

(ix) FEATURE:

(D) OTHER INFORMATION: N at position 29-36 can have a variable length of 6-8 bases

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GGUCCGAAGU GCAACGGGAA AAAUGCACNN NNNNNNNNNNN NNNNNNNNNNN
NNNNNNNNNNNN NNNNNN

50

66

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 88 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

GGUCCGAAGU GCAACGGGAA AAUGCACUAG CUCGUGAGGC UUUCGUGCUG
UUCCGAGCUA UGAAAGAAUU UUAUAUCUCU AUUGAAC

50

88

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

GGUCCGAAGU GCAACGGGAA AAUGCACUGC AUGUGAGGC GUAACGCUGU
UCCGUGCUAU GAAAGAAUUU UUAUAUCUCU UUGAAC

50

87

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 89 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

GGUCCGAAGU GCAACGGGAA AAUGCACUGG UGAGUGAGGC CGAUGCUGUU
CCUCGCCGCU AUGAAAGAAU UUUUAUCUC UAUUGAAC

50

89

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 91 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:
 GGUCCGAAGU GCAACGGAA AAUGCACUGA CGCGCGAGGU CUUGGUACUG 50
 UUCCGUGGCU CUAUGAAAGA AUUUUAUAC UCUAUUGAAA C 91
- (2) INFORMATION FOR SEQ ID NO:18:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:
 GGUCCGAAGU GCAACGGAA AAUGCACUCU GGGUGAGACU UGAAGUCGUU 50
 CCCCAGGUCU AUGAAAGAAU UUUUAUACUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:19:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:
 GGUCCGAAGU GCAACGGAA AAUGCACUCC CGGUGAAGCA UAAUGCUGUU 50
 CCUGGGGUCU AUGAAAGAAU UUUUAUACUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:20:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:
 GGUCCGAAGU GCAACGGAA AAUGCACUGG GAGUGAGGUU CCCCGUUCCU 50
 CCCGCACCCU AUGAAAGAAU UUUUAUACUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:21:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:
 GGUCCGAAGU GCAACGGAA AAUGCACUAG CGAUGUGAAG UGAUACUGGU 50
 CCAUCGUGCU AUGAAAGAAU UUUUAUACUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:22:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs

- (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:
 GGUCCGAAGU GCAACGGGAA AAUGCACCUA CAGUGAGCCU UCUGGUGGUC 50
 CUGUGUGCUA UGAAAGAAUU UUAUAUCUCU AUUGAAC 88
- (2) INFORMATION FOR SEQ ID NO:23:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:
 GGUCCGAAGU GCAACGGGAA AAUGCACUUG UUGUGAGUGG UUGAUUCCAU 50
 GGUCCAACCU AUGAAAGAAU UUUUAUACUC UAUUGAAC 89
- (2) INFORMATION FOR SEQ ID NO:24:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:
 GGUCCGAAGU GCAACGGGAA AAUGCACUGC CUGUGAGCUG UUUAGCGGUC 50
 CAGGUCGUCU AUGAAAGAAU UUUUAUACUC UAUUGAAC 89
- (2) INFORMATION FOR SEQ ID NO:25:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:
 GGUCCGAAGU GCAACGGGAA AAUGCACCUA AGGCGAAGAC UUAGUCUGCU 50
 CCCUGUGCUA UGAAAGAAUU UUAUAUCUCU AUUGAAC 88
- (2) INFORMATION FOR SEQ ID NO:26:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:
 GGUCCGAAGU GCAACGGGAA AAUGCACUUG CGUCGAAGUU AAUUCUGGUC 50
 GAUGCCACUA UGAAAGAAUU UUAUAUCUCU AUUGAAC 88
- (2) INFORMATION FOR SEQ ID NO:27:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 90 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:
 GGUCCGAAGU GCAACGGAA AAUGCACUUU CAAUGAGGUA UGUAAUGAUG 50
 GUCGUGCGCC UAUGAAAGAA UUUUAUACU CUAUUGAAC 90

(2) INFORMATION FOR SEQ ID NO:28:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:
 GGUCCGAAGU GCAACGGAA AAUGCACUGC GGGAGAGUCU UUUGACGUUG 50
 CUCCUGCGCU AUGAAAGAAU UUUUAUACUC UAUUGAAC 89

(2) INFORMATION FOR SEQ ID NO:29:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:
 GGUCCGAAGU GCAACGGAA AAUGCACUCA UGGGAGGCCA UCGAUUCUGG 50
 GGUUUGCCUA UGAAAGAAUU UUUUAUACUCU AUUGAAC 88

(2) INFORMATION FOR SEQ ID NO:30:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:
 GGUCCGAAGU GCAACGGAA AAUGCACUUG CACAGAGCCA AAUUJGGUGU 50
 UGCUGUGCUA UGAAAGAAUU UUUUAUACUCU AUUGAAC 88

(2) INFORMATION FOR SEQ ID NO:31:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:
 GGUCCGAAGU GCAACGGAA AAUGCACUGG CCAGAGCUUA AAUUCAGUG 50
 UUGCUGGCCU AUGAAAGAAU UUUUAUACUC UAUUGAAC 89

(2) INFORMATION FOR SEQ ID NO:32:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 89 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:
 GGUCCGAAGU GCAACGGAA AAUGCACUNN NNNNNNNNNN NNNNNNNNN
 NNNNNNNNCU AUGAAAGAAU UUUUAUCUC UAUUGAAC 50
 89

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 29-32 are based paired with N's at positions 48-51

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 38-39 are based paired with N's at positions 40-41

(ix) FEATURE:

- (D) OTHER INFORMATION: N at position 44 is either G or U

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:
 GGUCCGAAGU GCAACGGAA AAUGCACUNN NNGUGARNNN NUGNUCCNNN 50
 N 51

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 29-34 are based paired with N's at positions 48-53

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 37-39 are based paired with N's at positions 40-42

(ix) FEATURE:

- (D) OTHER INFORMATION: N at position 45 is either G or U

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:
 GGUCCGAAGU GCAACGGAA AAUGCACUNN NNNNAGNNNN NNUGNUGNNN 50
 NNNN 54

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

(A)	LENGTH: 37 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:40:	
	GGGUGCAUUG AGAAACACGU UUGUGGACUC UGUAUCU	37
(2)	INFORMATION FOR SEQ ID NO:41:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 66 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:41:	
	GGGUGCAUUG AGAAACACGU UUGUGGACUC UGUAUCUAUG AAAGAAUUUU AUAUCUCUAU UGAAAC	50 66
(2)	INFORMATION FOR SEQ ID NO:42:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 23 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:42:	
	GTTTCAATAG AGATATAAAA TTC	23
(2)	INFORMATION FOR SEQ ID NO:43:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:43:	
	GGGACUAUUG AUGGCCUCC GACCNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NCACACAGAG GUAAAGAGGA UCCGGG	50 86
(2)	INFORMATION FOR SEQ ID NO:44:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:44:	
	GGGACUAUUG AUGGCCUCC GACCAGGUGC AUUGAGAAC ACGUJUGUGG ACUCUGUAUC UCACACAGAG GUAAAGAGGA UCCGGG	50 86
(2)	INFORMATION FOR SEQ ID NO:45:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 84 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	

(D)	TOPOLOGY:	linear	
(xi)	SEQUENCE DESCRIPTION:	SEQ ID NO:45:	
GGGACAUUUG AUGGCCUCC GACCUGGUGC GUUGAGAAAC AGGUUUUUGG		50	
ACUCCGUACC ACACAGAGGU AAAGAGGAUC CGGG		84	
(2)	INFORMATION FOR SEQ ID NO:46:		
(i)	SEQUENCE CHARACTERISTICS:		
(A)	LENGTH:	86 base pairs	
(B)	TYPE:	nucleic acid	
(C)	STRANDEDNESS:	single	
(D)	TOPOLOGY:	linear	
(xi)	SEQUENCE DESCRIPTION:	SEQ ID NO:46:	
GGGACAUUUG AUGGCCUCC GACCUGUAUGC AUUGAGAGAC ACACUUGUGG		50	
ACUCUGCAUC CCACACAGAG GUAAAGAGGA UCCGGG		86	
(2)	INFORMATION FOR SEQ ID NO:47:		
(i)	SEQUENCE CHARACTERISTICS:		
(A)	LENGTH:	86 base pairs	
(B)	TYPE:	nucleic acid	
(C)	STRANDEDNESS:	single	
(D)	TOPOLOGY:	linear	
(xi)	SEQUENCE DESCRIPTION:	SEQ ID NO:47:	
GGGACAUUUG AUGGCCUCC GACCAGAUGG AUUGAGAAAC ACUAUUAUGG		50	
ACUCUCCAUC GCACACAGAG GUAAAGAGGA UCCGGG		86	
(2)	INFORMATION FOR SEQ ID NO:48:		
(i)	SEQUENCE CHARACTERISTICS:		
(A)	LENGTH:	86 base pairs	
(B)	TYPE:	nucleic acid	
(C)	STRANDEDNESS:	single	
(D)	TOPOLOGY:	linear	
(xi)	SEQUENCE DESCRIPTION:	SEQ ID NO:48:	
GGGACAUUUG AUGGCCUCC GACCAGCUUC GUCGAGAUAC ACGUUGAUGG		50	
ACUCCGAAGC ACACACAGAG GUAAAGAGGA UCCGGG		86	
(2)	INFORMATION FOR SEQ ID NO:49:		
(i)	SEQUENCE CHARACTERISTICS:		
(A)	LENGTH:	86 base pairs	
(B)	TYPE:	nucleic acid	
(C)	STRANDEDNESS:	single	
(D)	TOPOLOGY:	linear	
(xi)	SEQUENCE DESCRIPTION:	SEQ ID NO:49:	
GGGACAUUUG AUGGCCUCC GACCUCGUAC GUUGAGAAAC AAGUUUAUGG		50	
ACUCCGUACC UCACACAGAG GUAAAGAGGA UCCGGG		86	
(2)	INFORMATION FOR SEQ ID NO:50:		
(i)	SEQUENCE CHARACTERISTICS:		
(A)	LENGTH:	86 base pairs	
(B)	TYPE:	nucleic acid	
(C)	STRANDEDNESS:	single	
(D)	TOPOLOGY:	linear	

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:
GGGACAUUUG AUGGCCUCC GACCUCGAUC GUUGAGAUAC ACGCUAGUGG 50
ACUCCGAAAC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:51:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:
GGGACAUUUG AUGGCCUCC GACCUACUGC AUCGAGAUAC ACGUUUGUGG 50
ACUCUGCACA UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:52:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:
GGGACAUUUG AUGGCCUCC GACCUAGAUAC GUUGAGAAAC ACAAUGCUGG 50
ACUCCGCAUC CCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:53:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:
GGGACAUUUG AUGGCCUCC GACCGCCUGC AUUGAGAAAC AGGAUUCUGG 50
ACUCUGCCAC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:54:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:
GGGACAUUUG AUGGCCUCC GACCCGCUAU GUUGAGAAAC ACUUUGCUGG 50
ACUCCGUAGC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:55:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 85 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

40000437-E2020E

GGGACAUUUG AUGGCCUUCC GACCUACUGC AUCGAGAAAC ACGUAAGUGA	50
CUCUGCAUCC CACACAGAGG UAAAGAGGAU CCCGGG	85
(2) INFORMATION FOR SEQ ID NO:56:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 86 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:	
GGGACAUUUG AUGGCCUUCC GACCCGGUAC GUCGAGAUAC ACGAAGAUGG	50
ACUCCGUAUC GCACACAGAG GUAAAGAGGA UCCGGG	86
(2) INFORMATION FOR SEQ ID NO:57:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 86 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:	
GGGACAUUUG AUGGCCUUCC GACCAACUCC AUCGAGAAAC ACGAUAGUGG	50
ACUCUGGAGC UCACACAGAG GUAAAGAGGA UCCGGG	86
(2) INFORMATION FOR SEQ ID NO:58:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 86 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:	
GGGACAUUUG AUGGCCUUCC GACCAGAGAC GUCGAGAAAC ACGUUUGUGG	50
ACUCCGUCUC UCACACAGAG GUAAAGAGGA UCCGGG	86
(2) INFORMATION FOR SEQ ID NO:59:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 86 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:	
GGGACAUUUG AUGGCCUUCC GACCAGCUAC AUCGAGAAAC AAGAUUUUGG	50
ACUCUGUAGC GCACACAGAG GUAAAGAGGA UCCGGG	86
(2) INFORMATION FOR SEQ ID NO:60:	
(i) SEQUENCE CHARACTERISTICS:	
(A) LENGTH: 83 base pairs	
(B) TYPE: nucleic acid	
(C) STRANDEDNESS: single	
(D) TOPOLOGY: linear	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:	
GGGACAUUUG AUGGCCUUCC GACCAAGUGC AUUGAGAUAC AAAUGAUUGG	50

1000000000000000

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

GGGACUAUUG AUGGCCUUCC GACCUCCUGC AUUGAGAAC AGUGAUCUGG	50
ACUCUGCAAC UCACACAGAG GUAAAGAGGA UCCGGG	86

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 85 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

GGGACUAUUG AUGGCCUUCC GACCUGUGGA UUGAGCAACA CGUGAGUGGA	50
CUCUCCACAU CACACAGAGG UAAAGAGGAU CCGGG	85

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

GGGACUAUUG AUGGCCUUCC GACCCCGUGC GUUGAGACAC ACACCGAUGG	50
ACUCCGCAUG UCACACAGAG GUAAAGAGGA UCCGGG	86

(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

GGGACUAUUG AUGGCCUUCC GACCAGCUGC AUCGAGAUAC ACGAUUGUGG	50
ACUCUGCAGC CCACACAGAG GUAAAGAGGA UCCGGG	86

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 87 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

GGGACUAUUG AUGGCCUUCC GACCAGAUUC GUUGAGAAC ACAUGGGUGG	50
ACUCUCCCGC UACACACAGA GGUAAGAGG AUCCGGG	87

(2) INFORMATION FOR SEQ ID NO:71:

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(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:71:	
	GGGACAUUUG AUGGCCUUCC GACCAGAUGG AUUGAGAAAC ACGUUCGUGG	50
	ACUCUCCAAC UCACACAGAG GUAAAGAGGA UCCGGG	86
(2)	INFORMATION FOR SEQ ID NO:72:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:72:	
	GGGACAUUUG AUGGCCUUCC GACCGACUGC AUCGAGAAAC ACUGAUGUGG	50
	CCUCCGCACG GCACACAGAG GUAAAGAGGA UCCGGG	86
(2)	INFORMATION FOR SEQ ID NO:73:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:73:	
	GGGACAUUUG AUGGCCUUCC GACCAGCUAC GUUGAGAAAC AGUAUAUUGG	50
	ACUCCGUAGC UCACACAGAG GUAAAGAGGA UCCGGG	86
(2)	INFORMATION FOR SEQ ID NO:74:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:74:	
	GGGACAUUUG AUGGCCUUCC GACCGAGUGC GUCGAGAAAC ACAUUUGUGG	50
	ACUCCGCACA CCACACAGAG GUAAAGAGGA UCCGGG	86
(2)	INFORMATION FOR SEQ ID NO:75:	
(i)	SEQUENCE CHARACTERISTICS:	
(A)	LENGTH: 86 base pairs	
(B)	TYPE: nucleic acid	
(C)	STRANDEDNESS: single	
(D)	TOPOLOGY: linear	
(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:75:	
	GGGACAUUUG AUGGCCUUCC GACCUCGUAC GUUGAGAAAC ACGCUAGUGG	50
	ACUCCGUAUG UCACACAGAG GUAAAGAGGA UCCGGG	86
(2)	INFORMATION FOR SEQ ID NO:76:	
(i)	SEQUENCE CHARACTERISTICS:	

- (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:
- | | |
|--|----|
| GGGACUAUUG AUGGCCUUCC GACCAGAUAC GUUGAGAGAC ACGCACGUGG | 50 |
| ACUCCGUAUC UCACACAGAG GUAAAGAGGA UCCGGG | 86 |
- (2) INFORMATION FOR SEQ ID NO:77:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:
- | | |
|---|----|
| GGGACUAUUG AUGGCCUUCC GACCAGGAUC ACAGAGAAC ACCGUGGGUG | 50 |
| GCUCCCUCUA UCACACAGAG GUAAAGAGGA UCCGGG | 86 |
- (2) INFORMATION FOR SEQ ID NO:78:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 87 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:
- | | |
|---|----|
| GGGACUAUUG AUGGCCUUCC GACCGUGCGC AUCGAGAAC ACGUUGAUGG | 50 |
| ACUCUGCAUG CACACACAGA GGAAAGAGG AUCCGGG | 87 |
- (2) INFORMATION FOR SEQ ID NO:79:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:
- | | |
|---|----|
| GGGACUAUUG AUGGCCUUCC GACCGAGAGG AUCGAGAAC ACGUAUGUGG | 50 |
| ACUCUCCAUC UCACACAGAG GUAAAGAGGA UCCGGG | 86 |
- (2) INFORMATION FOR SEQ ID NO:80:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:
- | | |
|--|----|
| GGGACUAUUG AUGGCCUUCC GACCGGAUGG AUUGAGACAC ACGUAUGUGG | 50 |
| ACUCUCCAUC ACACACAGAG GUAAAGAGGA UCCGGG | 86 |
- (2) INFORMATION FOR SEQ ID NO:81:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 86 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:
GGGACUAUUG AUGGCCUCC GACCUCGGC AUUGAGAUAC ACGUAGAUGG 50
ACUCUGUCUC ACACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:82:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:
GGGACUAUUG AUGGCCUCC GACCUGGACC GUAGAGAAC ACGUUJUGAUG 50
GCUCCCUCUG UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:83:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 29 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA
(ix) FEATURE:
(D) OTHER INFORMATION: N's at positions 1-5 are paired with
N's at positions 25-29

(ix) FEATURE:
(D) OTHER INFORMATION: N at position 16 is paired with N at
position 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:
NNNNNUUGAG AUACANNUGG ACUCNNNN 29